REMARKS

Status of the Claims

Claims 1-26 are pending in this application, claims 1 and 9 having been amended herein.

Claims 1-26 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Arnhold et al..

Claims Rejections - 35 U.S.C. §102(b)/35 U.S.C. §103(a)

Claims 1-26 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Arnhold et al.. Applicant respectfully traverses these statements.

The present invention relates to an apparatus and method for ***passively*** damping vibration induced by rolls forming a nip in a paper machine or paper finishing device by way of a dynamic damper which has a weight suspended by a spring from a vibrating system. The ***spring constant and/or the mass for the dynamic damper is changed*** by ***a control device for tuning the natural frequency of the dynamic damper*** to the frequency of the vibrating system. It is respectfully submitted that a close review of the Arnhold et al. reference reveals that this reference fails to disclose or suggest either changing the spring constant and/or mass and further fails to teach or disclose a control device for such purpose. Rather as discussed in greater detail below Arnhold et al. discloses a method for damping in which a mass is ***actively*** moved to thereby damp the vibration of the system. Therefore, it is noted that Arnhold et al. does not even disclose or suggest a

passive dampening system in the manner of the claimed invention but rather relates exclusively to an ***active*** dampening system.

Arnhold et al. relates generally to a method for damping vibrations on a paper-making machine using an ***actively*** operating damping apparatus. Such an apparatus functions by ***actively*** moving a mass so that the mass has a frequency which is equal to the frequency of the system but has an amplitude opposite of those vibrations of the vibrating system. In this manner the apparatus functions to dampen the system. To accomplish this, Arnhold et al. produces vibration in the opposite phase and magnitude, using a movable selected mass controllable by a servo motor.

Contrary to Arnhold et al., Applicants' invention is of a ***passively*** operating type. The mass in the claimed invention is not ***actively*** moved but rather the device receives vibrations passively. The range of frequencies to which Applicants' apparatus operates depends on its natural frequency. The desired natural frequency may be tuned by changing the spring constant of the damper spring, the mass of the damper, or both. The frequency to which the apparatus is tuned equals a multiple of the rotational frequency of the roll closest to the natural frequency of the vibrating system or equal to the problematic excitation frequency of the vibrating system.

Further, Arnhold et al. does not disclose that the spring constant of the spring of the dynamic damper and/or the mass of the dynamic damper is changed or even could be changed in order to tune the natural frequency of the dynamic damper in the manner of the claimed invention. On the other hand, in the claimed invention the spring constant and/or the mass of the dynamic damper can be changed and are changed in order to tune the natural frequency of the damper. In order to change the spring constant and/or the

mass of the dynamic damper the claimed invention is provided with a control device for changing said spring constant and/or mass. Since the device disclosed in Arnhold et al. functions in a completely different manner the reference does not disclose or suggest such a control device nor does the reference disclose or suggest why such a device would be necessary and/or desirable.

The Examiner contends that Arnhold et al. discloses a passive system at col. 6 line 67 through col. 7 line 3. However, the section to which the Examiner refers merely discloses that the device of Arnhold et al. may be provided with an additional spring and mass in the event that the active dampening system malfunctions. However, the reference still fails to teach or suggest that the spring constant and/or mass of the damper could be changed or altered. In addition, there is no suggestion or teaching of a control device to achieve this function.

In view of the above it is submitted that the Arnhold et al. references fails to anticipate and/or render the claimed invention obvious. Withdrawal of the Examiner's rejections under §§ 102(b) and 103(a) is, therefore, respectfully requested.

Conclusion

In view of the above amendments it is submitted that the Examiner's objections and rejections have been overcome and should be removed and the present application should now be in condition for allowance.

Should any changes to the claims and/or specification be deemed necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

It is believed that this communication is being timely submitted. However, in the event that it is untimely and extension fees are required, this is to be considered a petition for extension and the Commissioner is hereby authorized to charge any requisite fee to Deposit Account No. 50-0518.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,
STEINBERG & RASKIN, P.C.

By:_____
Paul J. Higgins
Reg. No. 44,152

Steinberg & Raskin, P.C.
1140 Avenue of the Americas
New York, New York 10036
(212) 768–3800

Marked-up Version of Claims as amended herein.

1. (Thrice Amended) A method for passively damping vibration induced by rolls forming a nip in a paper machine or in a paper finishing device by means of a dynamic damper which comprises the steps of suspending a selected weight from a vibrating system by means of a spring, changing the spring constant of the spring of the dynamic damper and/or the mass of the dynamic damper by means of a control device in order to tune the natural frequency of the dynamic damper, whereby the vibration induced by rolls which are in nip contact is damped by means of the dynamic damper so that the damper is tuned to a frequency that is substantially equal to a multiple of the rotational frequency of the roll that is closest to the natural frequency of the vibrating system, or to a frequency that substantially corresponds to the problematic excitation frequency of the vibrating system.

9. (Thrice Amended) An apparatus for passively damping vibration induced by rolls forming a nip in a paper machine or in a paper finishing device by means of a dynamic damper which comprises a selected weight suspended from a vibrating system by means of a spring, said apparatus further comprising a control device which is arranged to change the spring constant of the spring of the dynamic damper and/or the mass of the dynamic damper in order to tune the natural frequency of the dynamic damper, wherein the apparatus is fitted to dampen the vibration induced by rolls forming a nip such that the control device is arranged to tune the damper to a frequency that is substantially equal to a multiple of the rotational frequency of the roll that is closest to

the natural frequency of the vibrating system, or to a frequency that substantially corresponds to the problematic excitation frequency of the vibrating system.